

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-325094

(43)Date of publication of application : 10.12.1996

(51)Int.Cl.

C30B 25/14
H01L 21/205
H01L 33/00

(21)Application number : 08-066254

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(22)Date of filing : 22.03.1996

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(30)Priority

Priority number : 07 73318 Priority date : 30.03.1995 Priority country : JP

(54) PREPARATION OF III-V GROUP COMPOUND SEMICONDUCTOR

(57)Abstract:

PURPOSE: To produce a III-V group compd. semiconductor exhibiting (p) type conduction even if a post-treatment is not applied.

CONSTITUTION: In a pyrolytic vapor growth method of the III-V group compd. semiconductor expressed by the general formula $\text{In}_x\text{Ga}_y\text{Al}_z\text{N}$ (in the formula, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$, $x+y+z=1$) and containing a (p) type impurity by using an organometallic starting gas, an inactive gas having $\leq 0.5\text{vol.}\%$ hydrogen concn. is used as a carrier gas, or after etching the inside of a reaction furnace using at least one compd. selected from a group consisting of hydrogen halides, a compd. between a halogen element and a V group element and the compd. of a halogen element, hydrogen and a V group element, the inactive gas having $\leq 0.5\text{vol.}\%$ hydrogen concn. is used as the carrier gas.

LEGAL STATUS

[Date of request for examination] 18.03.1999

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3198912

[Date of registration] 15.06.2001

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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